

# Ejaculation

Def: ejection of the semen from the penis at the end of sexual intercourse

Mechanism: This process is initiated by 2 external stimuli depend on 2 internal pathways and manifested by 2 phases.

external stimuli

Central (cerebral)

Peripheral (genital)

these cerebral centers lead to ejaculation even without genital stimulation it's near the erection central centers.

Rhythmic tactile stimulation of glans, penile shaft lead to ejaculation

Internal pathway

Somatic (sensory, motor)

Sympathetic (Motor)

Afferent: (sensory impulse from genital stimulation travel along pudendal nerve to spinal cord S<sub>2,3,4</sub>)  
Efferent from S<sub>2,3,4</sub> (motor) to pelvic floor muscle and ischio cavernosus, bulbo cavernosus.

efferent from T<sub>10,11,12</sub> & L<sub>1,L2</sub> to hypogastric plexus to unstriated muscle of prostate S-V + Vas, bladder neck.

phases

Emission: expulsion of seminal fluid from prostate, S-V, vas into posterior urethra. + contraction of internal sphincter to inhibit retrograde ejaculation. this phase is voluntarily controlled if the semen reaches posterior urethra then ejaculation will occur involuntarily

Ejaculation Propre (Antegrade) expulsion of S fluid from posterior urethra into outside the penis (involuntary) initiated by contraction of pelvic floor muscle and ischio cavernosus, bulbo cavernosus muscles. this contraction occur rhythmically at 0.8 second interval this phase associated with intense pleasure <sup>sensation</sup> called (orgasm)

# Anejaculation

Complete Absence of ejaculation with absent orgasm due to complete sympathetic denervation.

## Causes

Congenital: Congenital anorgasmia. (rare)

Psychological factors (over-strict upbringing)

by ejaculation by vibrator or by electroejaculation

## Acquired

iatrogenic

→ Drugs: Antipsychotic, Antidepressant  
Anti-HTN, Alcohol

→ Operations

operation lead to injury of sympathetic nerves of ejaculation

① RPLND → Retroperitoneal LN Dissection  
② Colo-rectal, aorto-iliac operations. in testicular cancer

→ Non iatrogenic

→ Systemic diseases DM

Disseminated Sclerosis (DS)

→ Spinal cord injuries

any damage of spinal cord at the level

From T10 to L2



## Retrograde ejaculation

- it's a condition in which there is normal semen emission but failed in it's antegrade ejaculation.
- it's called cryptospermia / Dry orgasm / Dry run.
- NB Aspermia / Anejaculated = Absence of emission, ejaculation

Causes: ① Congenital : Congenital bladder neck in competence (dysergia)

② Acquired      ⓐ Iatrogenic

- Drugs Anti psychotic, Anti depressant, Antihypertensive, Alcohol
- Operations : - any operation lead to injury to sympathetic nerves of ejaculation.
- Any operation of bladder neck
  - Retro peritoneal LN dissection (RPLND)
  - Trans urethral resection of prostate (TURP)

ⓑ Non Iatrogenic

Systemic disease → DM, Disseminated sclerosis.

Spinal cord injuries

Urethral stricture Congenital, Traumatic, inflammatory can cause RE.

## Diagnosis-

History, Examination for Neurological lesion  
Scars of operation, Semen Analysis shows Absent or low ejaculate volume.  
Urine → Presence of sperms.

## Treatment of Retrograde ejaculation.

### ① pharmacological Rx

- Sympathomimetics to improve bladder neck incompetence  
phenylpropanolamine. pseudoephedrine hydrochloride  
ephedrine sulfate.
- Antidepressant → imipramine hydrochloride  
if there's NO improve after 2 weeks we  
start AIH

Collect the semen From bladder as flow

- NaHCO<sub>3</sub> Solum bicarbonate to alkalinization of urine
- Antibiotic to sterilize the urine
- Abstinence for 3 days.
- ask the pt to drink water then urinate then  
Masturbation then urinate again in steril  
Cup. Centrifuge to collect semen then  
wash → IUI, IVF, ICSI



# Azoospermia.

total Abscent of sperms in the ejaculate.  
Causes

[1] **Non obstructive** (Hypergonadotropic hypogonadism) <sup>↑ LH, FSH</sup>  
Bilateral small testis.

## ① Hypospermatogenesis

- idiopathic
- cryptorchism
- irradiation
- Drugs, cytotoxic therapy
- systemic illness.
- Hypogonadotropic Hypogonadism

## ② Maturation Arrest

- Idiopathic (genetic origin)

## ③ Germinal Aplasia (Sertoli cell only syndrome)

- idiopathic
- cytotoxic therapy
- irradiation
- Y chromosome microdeletion

## ④ Seminiferous Tubular Sclerosis

- Klinefelter's Syndrome
- Viral (Mumps orchitis)
- Vascular injury (testicular torsion)

[2] **Obstructive Azoospermia** (normal testicular size.  
(according to obstruction site: (Normal FSH))

### Epididymal obstruction

- Congenital / idiopathic / genetic
- Acquired post infection epididymitis
- Post surgical epididymal cyst

### Vas obstruction

- Congenital absent vas
- Acquired (post vasectomy)
- post surgical:
  - hernia
  - Scrotal surgery

### Ejaculatory duct.

- Congenital (prostatic cyst)
- Acquired →
  - bladder neck surgery
  - post infection